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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,214	11/13/2003	Susan E. Bach	970520A	8470

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EXAMINER	
PHU, PHUONG M	

ART UNIT	PAPER NUMBER
2611	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/712,214	BACH, SUSAN E.	
	Examiner	Art Unit	
	Phuong Phu	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,12 and 14-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *14-16* is/are allowed.

6)☒ Claim(s) *1-3 and 12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 6/27/07. Accordingly, claims 1-3, 12 and 14-16 are currently pending; and claims 4-11, 13 and 17-20 are canceled.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claim 1 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,760,371 in view of claim 10 of the U.S. Patent No. 6,760,371.

-Regarding claim 1 of the instant application, claim 1 of U.S. Patent No. 6,760,371 teaches an equalizing apparatus comprising an equalizer including a plurality of adjustable tap weights that equalizes a received signal, a tap weight update calculation unit adapted to determine tap weight updates for use in adjusting the tap weights during the operation of the equalizer, an offset memory and a summer, as claimed (see col.. 7, line 52 to col. 8, line 3),

except its fails to teach that the tap weight update calculation unit has an input coupled to an output of the equalizer, and the tap weight updates are adaptive tap weight updates.

Claim 10 of U.S. Patent No. 6,760,371 teaches that such tap weight updates can be determined based on the output of such an equalizer (see col. 9, lines 5-6).

For an application of how, in detail, to obtain the tap weight updates, it would have been obvious for one skilled in the art to implement the tap weight updates, in claim 1 of U.S. Patent No. 6,760,371, in such a way that the tap weight updates would be determined based on the output of such the equalizer, as taught by claim 10 of U.S. Patent No. 6,760,371, so that the tap weight updates would be obtained as required.

With such the implementation, the tap weight update calculation unit inherently has an input coupled to the output of the equalizer so that the tap weight updates would be determined based on the output of such the equalizer; and the tap weight updates would be adaptive tap weight updates since the equalized signal as the output of the equalizer inherently varies.

4. Claim 2 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,760,371 in view of claim 10 of the U.S. Patent No. 6,760,371, ad further in view of claim 11 of the U.S. Patent No. 6,760,371.

-Regarding claim 2 of the instant application, as applied to claim 1 of the instant application, claim 1 of U.S. Patent No. 6,760,371 in view of claim 10 teaches the claimed apparatus except failing to teach that the tap weight update calculation unit implements a zero forcing algorithm to produce the tap weight updates.

Claim 11 of U.S. Patent No. 6,760,371 teaches that such a zero forcing algorithm can be employed to produce such tap weight updates (see col. 10, lines 15-18).

For an application of how, in detail, to obtain the tap weight updates , it would have been obvious for one skilled in the art to implement the tap weight update calculation unit, in claim 1 of U.S. Patent No. 6,760,371 in view of claim 10, with a zero forcing algorithm to produce the tap weight updates, as taught by claim 11, so that the tap weight updates would be obtained a required.

5. Claim 3 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,760,371 in view of claim 10 of the U.S. Patent No. 6,760,371, and further in view of claim 9 of the U.S. Patent No. 6,760,371.

-Regarding claim 3 of the instant application, as applied to claim 1 of the instant application, claim 1 of U.S. Patent No. 6,760,371 in view of claim 10 teaches the claimed apparatus except failing to teach that the apparatus includes a demodulator having an input coupled to the output of the equalizer and the tap weight update calculation unit is coupled to the equalizer through the demodulator.

Claim 9 of U.S. Patent No. 6,760,371 teaches that such an apparatus can include a demodulator coupled to such an equalizer, and such a tap weight update calculation unit can be coupled to the demodulator to determine tap weight updates from the demodulated signal (see col. 8, line 63 to col. 9, line 10).

For an application of how, in detail, to obtain the tap weight updates , it would have been obvious for one skilled in the art to additionally implement the apparatus, in claim 1 of U.S. Patent No. 6,760,371 in view of claim 10 with a demodulator, as taught by claim 9, in such a way that the input of the demodulator would be configurable to be coupled to obtain the output an equalizer in order to produce the demodulated signal, and the input of the tap weight update

calculation unit would be coupled to the output of the demodulator in order to obtain the tap weight updates determined from the demodulated signal wherein the obtained tap weight updates would then be determined based on the output of the equalizer, as required, via the demodulator and the tap weight update calculation unit.

6. Claim 12 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 9 of U.S. Patent No. 6,760,371 in view of claim 10 of the U.S. Patent No. 6,760,371.

-Regarding claim 12 of the instant application, claim 9 of U.S. Patent No. 6,760,371 teaches an equalizing apparatus comprising an equalizer including a plurality of adjustable tap weights that equalizes a received signal, a demodulator coupled to the equalizer to produce a demodulated signal; a zero forcing tap weight update calculation unit inherently having an input coupled to obtain the output of the demodulator to determine tap weight updates for use in adjusting the tap weights during the operation of the equalizer, an offset memory and a summer, as claimed (see col.. 8, line 63 to col. 9, line 20), except its fails to teach that the demodulator having an input coupled to an output of the equalizer to produce the demodulated signal.

Claim 10 of U.S. Patent No. 6,760,371 teaches that such tap weight updates can be determined based on the output of such an equalizer (see col. 9, lines 5-6).

For an application of how, in detail, to obtain the tap weight updates , it would have been obvious for one skilled in the art to implement the apparatus, in claim 9 of U.S. Patent No. 6,760, as taught by claim 10, in such a way that the input of the demodulator would be configurable to be coupled to obtain the output an equalizer in order to produce the demodulated signal, and the input of the tap weight update calculation unit would be coupled to the output of the demodulator

in order to obtain the tap weight updates determined from the demodulated signal wherein the obtained tap weight updates would then be determined based on the output of the equalizer, as suggested, via the demodulator and the zero forcing tap weight update calculation unit.

Allowable Subject Matter

7. Claims 14-16 are allowed.

Response to Arguments

8. Applicant's arguments filed on 6/27/07 have been fully considered. As results, the previous rejections, under 35 U.S.C 112, have been withdrawn. Claims 14-16 are allowed, as indicated above. Claims 1-3 and 12, however, are unpatentable because of reasons set forth in this Office Action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 571-272-3009. The examiner can normally be reached on M-F (8:00 AM - 4:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Phuong Phu
Primary Examiner
Art Unit 2611

Phuong Phu
07/23/07

PHUONG PHU
PRIMARY EXAMINER